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ABSTRACT

The articles in this feature or theme issue describe successful approaches to positive, community-based management of severe challenging behavior. Programs include: a train-the-trainer strategy for inservice training used across the country; the use of student volunteers as community integration facilitators; a school-based intervention project for 3-8 year olds with challenging behavior; and a framework for clinical treatment combining functional assessment with psychotropic drugs. The issue also addresses considerations and research findings related to quality of life and community integration and includes the stories of four individuals whose severe behaviors were remediated in community settings. Major articles include: "Ken: Building a Better Life" (Mary Piggott); "Removing the Barriers" (Joe Reichle); "Joining the Community" (Laura Piche et al.); "Quality of Life for People with Challenging Behavior Living in Community Settings" (Sheryl Larson); "Community Integration Programming as a Preventive Approach to Challenging Behavior" (Brian Abery and Becky Lundeen); "At Home in the Community"; "Inservice Training Project: Support for Community Living" (Richard W. Albin); "Learning to Work: Jack's Story" (Gerry Nord); "Breaking the Cycle of Challenging Behaviors: Early Treatment Key to Success" (David Wacker et al.); "Psychotropic Drugs and Developmental Disabilities: From Form to Function" (Timothy D. Hackenberg and Travis Thompson); and "Summary of the National Working Conference on Positive Approaches to the Management of Challenging Behavior". (DB)

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INSTITUTE ON COMMUNITY INTEGRATION

IMPACT

Feature Issue on Challenging Behavior

Volume 4 (1) Spring, 1991

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
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Ken takes a snack break with one of his roommates in the kitchen of their house.

Ken: Building a Better Life

by Mary Piggott

Ken developed normally during his first year of life. As he neared age two, his rate of development slowed and his family became concerned. He spent hours staring into space, was fearful of sounds, did not interact much with other people in his life, and his speech was very limited. After many medical evaluations his parents were told that Ken had autism.

Ken was served by several preschool and school programs for the next several years, but his problems increased until his parents felt unable to control his behavior. He was hyperactive, threw furniture, lit fires in the middle of the night and often ran away from home. The behavior problems seemed endless to the family, and the emotional and physical exhaustion of caring for Ken became unbearable.

When he was 9 years old, staff from the county department of human services arranged for a residential provider in a neighboring state to care for Ken. His parents said the decision to have their son moved was the most difficult they had ever made. Over the next several years , Ken's behavior problems grew worse. He developed new and more challenging behaviors including

Ken, continued on page 16

From the Editors:

Individuals with severe challenging behavior can be served in and become productive members of the community. That is the theme of this issue of IMPACT. The articles in these pages describe successful approaches to positive, community-based management of challenging behavior, including:

- A train-the-trainer strategy for in-service training used across the country.
- A program using student volunteers as community integration facilitators.
- A school-based intervention project for 3-8 year olds with challenging behavior.
- A framework for clinical treatment combining functional assessment with psychotropic drugs.

In addition, this issue addresses considerations and research findings related to quality of life and community integration of persons with challenging behavior, as well as areas for future research and training. Perhaps most significant are the stories of four individuals with challenging behavior who are on paths to satisfying lives in their communities. For each, behaviors ranging from potentially life-threatening to severely disabling were remediated in community settings.

We hope these articles will stimulate reexamination of attitudinal, policy, and informational barriers that prevent persons with challenging behavior from joining our communities.

CONTENTS

Overview	2	Early Intervention	10
Quality of Life	4	Suggested Readings	11
Community Integration	6	Drugs	12
Inservice Training	8	Future Priorities	14

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Removing the Barriers

By Joe Reichle

At one time or another, most of us have become sufficiently disturbed so that we emitted a behavior that challenged the standards of social acceptability. Kicking a vending machine that failed to dispense a beverage, slamming the receiver of a phone when angered by one's spouse calling to say he or she was working late, or yelling at one's own child who has just spilled orange soda on a new carpet: these are all examples of behavior that has the potential to disrupt the environment and other individuals residing within it. For the most part, these instances serve to remind us that we have failed to self-regulate our behavior and/or have failed to acceptably communicate our wants, needs, or dislikes. Unfortunately, some individuals have very limited self-regulation skills and equally limited repertoires of socially acceptable behavior. These individuals appear to be most at risk for the development of challenging behavior that result in self-injury or injury to others, cause damage to the physical environment, interfere with the acquisition of new skills, and/or socially isolate them.

At one time or another, most of us have become sufficiently disturbed so that we emitted a behavior that challenged the standards of social acceptability.

It is clear that individuals who engage in significant repertoires of challenging behavior have a more difficult time securing community residences and access to community services. Once a community residence has been found, individuals who engage in challenging behavior are far more likely to be readmitted to state institutions than their counterparts who do not engage in challenging behaviors. A large proportion of those remaining in large congregate living arrangements who have yet to become the beneficiaries of deinstitutionalization engage in serious patterns of challenging behavior. The 1987 National Medical Expenditure Survey reported that 23% of residents of private community facilities (serving 3-15 individuals per site) engaged in physically aggressive behavior directed at other people, and 18% were reported to engage in self injury. A different study sampling 336 individuals with developmental disabilities served in foster homes or small group homes (serving six or fewer) obtained the same estimates. Providing qualitatively sound integrated experiences in a range of community environments will require significant advances in our ability to identify functional relationships between an individual's challenging behavior and its provoking antecedents and consequences.

Within the past 10 years, significant advances have been made in moving from an assessment process that simply describes the form of challenging behavior being emitted to one in which behaviors are described in terms of the function that they serve. Intervention procedures are increasingly based on our understanding of the social function(s) of a particular repertoire of challenging behaviors. That is, aggression, self injury, and related behaviors have been demonstrated to be maintained by accessing the attention of others, obtaining goods/services, and escaping or avoiding undesired items/events. In some instances, the functional relationships between environmental conditions and challenging behavior are somewhat subtle. For example, simple task demands, unavailability of a desired item of clothing, absence of a favorite staff member, and crowding in lines for a community service may provoke challenging behavior. Similarly, certain medical conditions (i.e. toothache, earache) may precipitate or assist in mediating the emission of challenging behavior. Recent intervention strategies have focused on the relationship between an individual's inability to communicate efficiently and his or her propensity to emit challenging behavior. This work has shown that where a communicative form is carefully matched to a person's repertoire of challenging behavior, the resulting acquisition of socially acceptable communication skills can have a dramatic influence on the decrease in challenging behavior emissions.

A hopeful yet realistic goal should be that individuals with challenging behaviors be able to engage in a full range of life experiences without physical or social barriers.

Socially acceptable alterations in environmental conditions as well as in the individual's behavioral repertoire can be undertaken to insure that the greatest level of effort is being placed on establishing living conditions that emphasize basic human dignity, rights of citizenship, and unique personhood for individuals who engage in challenging behavior. As has been noted, "...Researchers, advocates, and persons with developmental disabilities increasingly evaluate community services not solely on where they are, but on the extent to which they promote personal growth and development, foster typical social relationships, provide opportunities to participate in the community in socially valued ways, permit and encourage personal autonomy and respect, and protect basic rights. Arguably, it is with individuals who present serious problem behavior that these goals are most difficult to meet individually and collectively..." (Horner, Albin, & O'Neill, in press).

Another pressing need in the realm of challenging behavior is preventing the emergence of such behavior. For example, we know that young children spend a significant amount of effort crying during their first several months of life. We also know that when they do cry, the environment often provides very immediate attention, desired items and events, or withdrawl of undesired items/events. Fortunately, before crying becomes a well established strategy to request or reject, most children begin to learn more socially acceptable forms of behavior that will serve the same function. Unfortunately, many infants and toddlers with developmental disabilities may be delayed in acquiring socially acceptable methods of communicating, "I want that" or "I don't want that." In these cases, children may inadvertently be taught to use their socially unacceptable behavior to serve communicative functions such as requesting and rejecting. For example, assume that when a child cries, a doting parent immediately intervenes and delivers a bottle, makes the child more comfortable, or picks up the child. On some occasions the adult may not be immediately forthcoming. The child may bang on the side of the crib. Immediately after banging, the adult may consequate the child. If the cries and crib banging are consistently reinforced, over time the infant may learn that engaging in crying and crib banging serves as a strategy to obtain desirable events.

Sometimes these less socially acceptable strategies become so well established that teaching a socially acceptable alternative becomes quite challenging. With the recent advances in service delivery for very young children as a result of Public Law 99-457, the decade ahead offers tremendous opportunities for work with parents and caregivers in the area of preventing the emergence of challenging behavior by identifying situations that require proactive measures to prevent relatively marginal social behaviors from escalating into challenging repertoires.

In spite of the substantial progress that has been made in our ability to serve individuals who engage in challenging behavior, there remains a significant amount of work ahead. There are few empirically and socially validated assessment and intervention strategies. Within the mandates for provision of educational services to younger children, a unique opportunity exists to explore the area of challenging behavior prevention. Training of staff who serve individuals with challenging behavior remains a critical need. Each year there are 40,000 to 50,000 new persons entering direct care roles for persons with developmental disabilities. These individuals, in addition to traditional inservice training, require ongoing technical assistance in order to provide quality service.

With continued effort in the areas outlined above, a hopeful yet realistic goal should be that individuals with challenging behaviors be able to engage in a full range of life experiences without physical or social barriers. Further, that intervention procedures leading to these changes should focus on positive approaches that emphasize teaching alternatives to the emission of challenging behavior rather than focusing primarily on reactive procedures to use once challenging behaviors have been emitted.

Joe Reichle is Professor of Communication Disorders at the University of Minnesota. This article with references can be obtained from the author at the Research and Training Center on Community Living, 106 Pattee Hall, University of Minnesota, 150 Pillsbury Dr. SE, Minneapolis, MN 55455.

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Joining the Community

By Laura Piché, Paula Krage and Cindy Wiczek

Mat is a 23 year-old man with autism and mental retardation. He lives in a home that he shares with a roommate and holds two jobs in the community. One job involves cleaning a local bar and restaurant for one hour each morning. He wipes off tables and the booths, fills the ice container, and restocks the beer cooler. The second job is delivering a weekly shopper (advertiser) to 170 homes in his neighborhood. On Tuesday evenings, the shopper is delivered to Mat's home; Mat and a job coach then have to fold each shopper, band it and place it in a plastic bag, before it is ready for delivery on Wednesday. In addition to working in the community, Mat spends a portion of each day engaged in other community activities. He regularly goes shopping, or walks around a nearby lake. He attends movies, concerts, and special community activities (i.e., the circus). Twice a week, he goes to a fast food restaurant, where he uses a communication wallet to order his breakfast or lunch independently.

But Mat has not always been so integrated in his local community. In fact, there have been times when he would rarely access the community. In the past, he engaged in a number of challenging behaviors including environmental disruption (i.e., removing pictures from the wall, taking down drapes, dismantling his bed, etc.); property destruction (i.e., ripping drapes, ripping clothes, breaking curtain rods, breaking windows, etc.); fecal smearing; some aggression; some self-stimulatory behavior (i.e., hand rubbing); urinating on the floor; stripping; and soaking his clothes. Two years ago, Mat's stripping had escalated to a point where he would rarely leave his home. For almost one entire year he refused to wear clothing and spent most of his time wrapped in blanket. He also spent long periods

Mat, continued on page 18

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Quality of Life for People with Challenging Behavior Living in Community Settings

by Sheryl Larson

During the last 25 years, thousands of people with mental retardation have moved from large institutions to smaller homes in typical neighborhoods. Individuals with challenging behaviors, however, often have difficulty remaining in or returning to homes in community settings. A 1979 survey of 176 superintendents of public institutions rated challenging behavior as the most difficult resident characteristic for placement, largely because of inadequate support services for behavior management in communities.

Despite barriers, many individuals with challenging behavior now live in the community. As a result, attention is gradually shifting from the feasibility of community placements to their quality and outcomes. Studies show consistent improvements in daily living skills, activity patterns, and social participation associated with community living. However, studies examining the impact of deinstitutionalization on challenging behavior provide mixed results on whether such behavior decreases, increases, or remains the same after community placement. These findings suggest that important differences may exist among community service providers in their support of people with challenging behavior. Identifying the reasons for variations among providers and the impact of such differences on the quality of care and outcomes experienced has become the focus of attention by researchers.

> ...there were substantial differences between people who have challenging behaviors and those who do not in outcomes related to quality of life.

One dimension on which providers of community services differ is in the degree to which they address aspects of community access that lead to improved quality of life. Quality of life can be defined as including physical presence in typical community settings; reasonable degrees of health, safety, and comfort; frequent opportunities for personal growth and development; the presence of meaningful social relationships; opportunities to develop skills and to participate in valued activities; and opportunities to express personal choices and experience personal autonomy. Not all provider agencies support quality of life in the same ways or to the same extent. They vary in opportunities to develop social relationships, opportunities for skill development, and opportunities for participation in valued activities.

Research to determine other reasons for the variability among providers in their support of quality of life outcomes is now underway. Various models have been developed to explain how the needs, capabilities, demands, and resources of a particular person interact with life events and environments to affect the quality of life for that person. Certainly challenging behavior is one personal characteristic hypothesized to impact the quality of a person's life. A relationship between quality of life and challenging behavior can be inferred from considerable evidence that people with challenging behavior have trouble getting into and staying in typical homes in community settings. However, more specific information about the negative effects of challenging behavior on individual lifestyles is beginning to emerge.

Researchers at the Research and Training Center on Community Living, University of Minnesota, have been investigating whether differences in objective measures of quality of life for people who live in small community homes are associated with their levels of challenging behavior. Investigators identified 27 people who had serious challenging behavior from a national sample of people living in small (1-6 bed) group homes and ICFs-MR. Individuals were selected because they had maladaptive behavior ratings that showed them to have more problem behaviors than the average for persons with mental retardation. Each of these persons was matched with another person who did not have serious challenging behavior but who, to the extent possible, was the same age, had the same level of mental retardation, and lived in the same size and type of home. Analyses showed that the two groups were not only the same on the matching characteristics, but also in personal characteristics such as gender, mobility, communication skills, age at first residential placement, year placed in current home, and specific skills in personal care, home care, and use of community environments. The investigators also tested whether the homes in which people lived had similar administrative characteristics such as staff ratio and use of live-in staff. These initial analyses were performed to rule out factors other than the level of challenging behavior which might account for differences in quality of life. The hypothesis of this investigation was that the

> The next task for providers and researchers is to identify strategies that will effectively support people with challenging behavior in community settings while also providing for improvements in quality of life.

presence of challenging behaviors may negatively influence quality of life outcomes including: a) the number of choices the person regularly makes; b) the number of household chores the person participates in; c) the frequency of contacts with family, friends, and neighbors; d) the frequency of participation in 10 selected leisure activities at home; e) the reactions of neighbors and community members to the person; and f) the frequency of participation in activities in community settings.

Preliminary findings suggested there were substantial differences between people who had challenging behaviors and those who did not in outcomes related to quality of life. Specifically, people with challenging behavior had fewer contacts with family, friends, and neighbors, participated in fewer leisure activities at home, and participated in fewer activities in community settings than people who did not have challenging behavior. This investigation did not find differences in the number of choices made, or the number of chores done. Differences in community reactions to persons with challenging behavior approached but did not reach statistical significance.

It is hypothesized that future studies will confirm that the level of challenging behavior has a negative effect on opportunities related to quality of life. Such confirmation will highlight the importance of behavioral support for community residents who have challenging behavior. If behavior problems not only adversely affect staff and fellow residents, but also diminish quality of life and community integration of those exhibiting the behavior, then appropriate behavioral support becomes a doubly important aspect of community services for persons with developmental disabilities.

The next task for providers and researchers is to identify strategies that will effectively support people with challenging behavior in community settings while also providing for improvements in quality of life. Research is needed to assess whether: a) certain types of challenging behavior correspond to reduced opportunities in specific areas of quality of life, b) the interventions used by agencies to address challenging behavior adequately incorporate the quality of life criteria in their instructional strategies, and c) environmental manipulations designed to reduce challenging behavior affects access to people, places, and activities important to the person. Research is also needed to identify the characteristics of living environments, behavioral programs, and behavior support services that lead to improvements in the quality of life of persons with challenging behavior. Such research may find, for instance, that a functional analysis of motivations for challenging behavior could enhance opportunities for community integration. For example, agencies that use a functional analysis to determine that a person engages in challenging behavior to escape from noisy or confusing situations may teach shopping skills in small convenience stores rather than in large supermarkets. Agencies unaware of the reason for the challenging behavior may prevent such a person from shopping at all, thereby reducing opportunities that could enhance quality of life. Research of this nature is vital to the identification of strategies to improve quality of life for people with challenging behavior in community settings.

Living in the community is becoming a reality for increasing numbers of persons with challenging behavior. As research has shown, however, the presence of challenging behavior may limit quality of life, even in small community homes. The next step in the evaluation of service delivery for individuals with challenging behavior is to ensure that needed supports permit them to enjoy the same general benefits of community living that are so well documented for other citizens with developmental disabilities.

Sheryl Larson is Research Assistant with the Research and Training Center on Community Living, University of Minnesota. An expanded version of this article with references is available from the author at the center, 212 Pattee Hall, University of Minnesota, 150 Pillsbury Drive SE, Minneapolis, MN 55455.

Additional Quality of Life Research

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Community Integration Programming as a Preventive Approach to Challenging Behavior

By Brian Abery and Becky Lundeen

There are numerous factors involved in the development and maintenance of challenging behavior in children and adults with developmental disabilities. Over the past 20 years, many professionals working with this population have focused on how the personal characteristics of individuals with disabilities place them at risk for such activity. An alternative approach that has received increasing interest in recent years stresses the importance of environmental factors related to the individual's quality of life.

Despite recent trends toward placing persons with severe disabilities within community residential settings and regular education classrooms, many children and adults with developmental disabilities remain socially isolated. Research results suggest that individuals with severe disabilities have fewer friends, less stability in their social networks, and limited opportunity to interact socially with persons who are not family members or professionals. In many cases, this social isolation is not a result of skill deficits or a lack of interest in developing social relationships, but rather stems from a variety of barriers external to the individual. Social isolation, loneliness and a lack of integration in the community may all contribute to the development and maintenance of challenging behavior.

While many approaches that focus on decreasing challenging behaviors are reactive in nature, with an emphasis on decreasing such behaviors when they occur, the Institute on Community Integration at the University of Minnesota has recently introduced a program that takes a more preventive approach. The Community Service Training Program in Developmental Disabilities is a collaborative effort between the Institute, two local school systems, and several community service organizations serving persons with mental retardation. The primary purpose of the program is to train junior and senior high school, and college undergraduate and graduate students to serve as community integration facilitators for youth and adults with moderate-severe disabilities. The role of facilitator is based on the philosophy that persons with disabilities often have to overcome many barriers at the individual (i.e., skill), family/residential, and community levels if they are to successfully develop friendships with same age peers. Integration facilitators serve as sources of support to the persons with whom they work, promoting the development of those skills and strategies necessary to gain access to community social events and settings where the opportunity exists to develop friendships. The program, therefore, does not provide "friends" to persons with disabilities, but rather, empowers individuals to independently develop and maintain such relationships.

Students taking part in the program are required to commit a minimum of five hours per week over the course of an academic year. All facilitators participate in an ongoing series of training and supervision seminars taught by persons affiliated with Institute and cooperating agencies. Since no previous experience working with persons with disabilities is required, coursework covers a variety of topics focusing on the characteristics and needs of persons with developmental disabilities including advocacy and self-advocacy, personal futures planning, and the design and implementation of individualized service plans to enhance community integration. Participants may earn academic credits or may take part in the program as volunteers.

Following the completion of the first phase of training (6-8 weeks), facilitators are matched with one or more individuals with disabilities based on age and common interests. They then serve as support persons for a specified number of hours each month. Since the focus of the program is to facilitate the development of social relationships within community settings, participants often elect to take part in such ongoing activities as community education classes, park and recreation programs, and health clubs. The role played by facilitators is to insure maximum participation in the program and to aid the person with the disability in meeting and getting to know other participants.

As of January, 1991, the program has trained and placed 27 integration facilitators with 36 youth/adults with developmental disabilities. Evaluations by parents, community residential staff, facilitators, and persons with disabilities themselves suggest the program has been quite successful in furthering the community integration of persons with developmental disabilities through facilitating the development and maintenance of friendships. Specifically, participants have reported gaining greater access to social contexts within the community typically frequented by peers, have demonstrated an increased frequency of initiating social interactions with others in these settings, and have expanded and diversified their social networks. As the program moves into the latter half of its second year, facilitators are initiating work with persons with disabilities within supported employment settings in an attempt to enhance the quality and quantity of social interaction and opportunities for friendship development within this context.

Contributed by Brian Abery, Program Director, and Becky Lundeen, Community Integration Facilitator, Community Service Training Program, Institute on Community Integration, University of Minnesota.

At Home in the Community

Learning basketball skills from the other young adults who regularly play the game at the local community center, going out to dinner, visiting the science museum, and playing soccer are some of the community-based activities that Robert now enjoys. However, this was not always the case. Because of a variety of challenging behaviors, he rarely had the opportunity to engage in integrated social and recreational activities in the community prior to reaching adulthood. As a result, he was infrequently exposed to peers without disabilities outside of other children in the foster family with whom he has resided since infancy. This lack of exposure resulted in few interests common to young adults his age. In addition, he acquired only the most basic communication skills. This further isolated him from peers and the community and is likely to have contributed to the development of challenging behaviors.

In the educational setting, Robert was characterized as a young man with moderate-severe disabilities. Despite participation in numerous intervention programs, he did not appear to use either verbal or non-verbal means for communicating with others. At school, he attended class in a segregated special education program that was miles from his neighborhood. Throughout his life he has had no one other than members of his foster family upon whom to rely for companionship.

During his final year of school, Robert began to participate in the Community Service Training Program in Developmental Disabilities at the Institute on Community Integration. Prior to his involvement in the program he rarely vocalized, and used the sign language he was taught in school only to indicate which of a limited variety of foods he wished to eat. He also engaged in a number of challenging behaviors, the majority appearing to take place when he was frustrated or asked to engage in activities in which he did not wish to participate. Requests by others that Robert terminate activities, try new experiences, or attempt challenging tasks independently would often lead to physically aggressing against inanimate objects, making loud inappropriate noises, masturbating, removing food from the plates of fellow diners at restaurants, refusing to cease ongoing activities until given physical guidance, or, in the words of his teachers, "being non-compliant."

Since he began to take part in the Community Service Training Program, Robert has worked closely with two facilitators whose responsibility has been to promote development of the social skills he needs to effectively gain access to a variety of community environments where he could interact with peers. Working with Robert was initially difficult for his facilitators because of his challenging behavior and poorly developed communication skills. However, both quickly came to view Robert as an individual who was attempting to communicate with others and express his preferences in the best manner in which he knew how. Based on this perspective, the community activities in which Robert and his facilitators participated were viewed as potential learning experiences through which he could be exposed to a variety of more appropriate alternatives to express his preferences and ensure that his needs were met.

As Robert and his facilitators have gotten to know each other, the specific community activities in which they engage have become less important than the time they spend together. His positive response to the program does not seem to stem from the opportunity to go out to restaurants for dinner or play soccer at the neighborhood park, but rather appears to be a result of having access to people who show care and concern for him while they assist in the development of skills that have opened up the community for exploration.

As he has interacted with other young adults and engaged in age-appropriate, integrated activities in a variety of community settings, Robert's communication skills have improved dramatically while he has significantly reduced the challenging behavior he displays. The communication skills of which Robert's teachers thought he was not capable of learning are now being used by him on a regular basis. Employing a combination of oral speech and signing, he is currently initiating as well as responding to others to indicate his likes and dislikes as well as to become involved in conversation of a more social nature.

Over the past 18 months, his new social and communication skills have allowed Robert to make friends with a group of young adults at the local community center that he now frequents. They have also significantly increased the control that he is able to exert over events in his life through the effective communication of preferences. However, this is only a beginning. There is hope that he will continue to attempt to initiate social relationships, building a network of significant others upon whom he can rely for support, and will acquire the skills necessary for placement in both a supported employment program and community residence.

Contributed by the Community Service Training Program, Institute on Community Integration, University of Minnesota.

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Inservice Training Project: Support for Community Living

By Richard W. Albin

One of the biggest challenges in providing full community integration for all people with developmental disabilities is our ability to provide adequate support in regular community settings to individuals who also display severe problem behaviors. Behaviors such as self-injury, aggression, and property destruction serve as major barriers to integration. These behaviors are a major reason why people either are not placed in community programs and settings or are removed from the community to more restrictive, segregated settings. Effective behavior support, therefore, is an important key to the successful community integration for these individuals.

In recent years, a controversy has developed regarding the use of aversive or punishment procedures in behavioral interventions. Several professional and advocacy organizations (e.g., the Association for Retarded Citizens, the Association for Persons with Severe Handicaps, and the Autism Society of America), as well as a large number of individuals, have advocated strongly for the use of "nonaversive" procedures when providing behavioral support. The term, "nonaversive behavior management", is frequently used to describe behavioral support approaches that emphasize use of positive, educative methods.

In some ways the term "nonaversive behavior management" is misleading. There is no single "nonaversive" approach. A variety of strategies and philosophical approaches fit within the nonaversive label. Unfortunately, the term nonaversive tends to focus attention on the prohibition of particular procedures. This is unfortunate because nonaversive approaches involve much more than position statements about what not to do. The development and application of positive support strategies are among the most exciting developments in intervention today. An already impressive collection of research studies and clinical demonstrations document the effectiveness of positive support strategies for individuals with challenging behaviors.

Systematic inservice training and technical assistance is absolutely essential to maintaining and expanding the momentum behind using positive, nonaversive procedures. The technology of behavioral support that is emerging involves a much broader and more comprehensive approach than has typically been viewed as behavior management. There is much more to training in positive approaches than learning a few new behavior intervention tricks. The remainder of this article describes one approach to inservice training on positive procedures that currently is in progress in several states around the country.

In 1987, the Department of Education's National Institute on Disability and Rehabilitation Research funded a Research and Training Center on Community-Referenced, Nonaversive Behavior Management. This Research and Training Center (RTC) is a six university collaboration among personnel at the University of Oregon, the University of South Florida, the University of California at Santa Barbara, San Francisco State University, the State University of New York at Stony Brook, and California State University at Hayward. The RTC mission is to develop, evaluate, and disseminate a practical technology of behavior management that is (a) effective with severe behavior problems, (b) consistent with community standards for nonaversiveness, (c) consistent with the existing science of human behavior, and (d) able to be used by staff in typical school and community settings. In other words, the RTC is funded to do research and training on positive behavioral support strategies.

Inservice training represents one major RTC training activity. For the past three years, Center staff from California State University at Hayward, the University of Oregon, and the University of South Florida have invested much time and effort in the development and delivery of an intensive inservice training workshop entitled the State Training Team Inservice. As the name suggests, the purpose of this workshop is to produce groups of trained individuals ("training teams") who will be a training and technical assistance resource in their own states.

The decision to employ a "training-of-trainers" approach was based on two considerations: (a) inservice training resources would be best used if they produced a spread of effect that extended beyond training sessions provided by RTC staff and that lasted beyond the life of the RTC and (b) there is a need to expand resources available to provide training and technical assistance on positive behavioral support to community programs and schools. By training teams of trainers in a particular state, a resource for training and technical assistance is put into place that can continue to operate and have impact long after the RTC is gone. Such a team is designed to supplement the level of expertise that would be available to local agencies.

There are three basic goals for a training team. A team must (a) have the capability to add new members or replace members by replicating the full state training team inservice on its own, (b) consist of members who can make presentations and deliver workshops (e.g., one and two day types) on specific topics, as well as (c) provide technical assistance on behavioral support to community programs and schools. Training professionals to deliver inservice workshops, as well as provide technical assistance, requires an approach that goes beyond the usual concept of inservice training.

The State Training Team Inservice is an intensive and comprehensive training workshop with several distinctive features. For example, the inservice involves 10-12 days (in

one, two or three day blocks) of presentations, discussions, and work sessions spread over a four to six month period of time. In many sessions, there are activities and exercises to supplement the presentations and to encourage discussion. In addition, between the inservice sessions, the participants spend time working on related inservice activities. A set of readings with over 80 articles and chapters provide additional technical information to supplement the presentations. Some of the many topics covered in these materials include functional analysis, structuring positive environments, generalization, teaching communication skills, and medical and pharmacological issues in support plans.

The length of time that the inservice requires is due partly to the amount of material that must be covered. Positive behavioral support approaches incorporate information and skills from a number of content areas. Sessions within the inservice cover: (a) philosophy, values, and

Training, continued on page 19

Learning to Work: Jack's Story

By Gerry Nord

Jack, a 24-year old with developmental disabilities who emits challenging behaviors, is learning to work as a result of the technical assistance offered through a collaborative effort of the Minnesota Department of Human Services, Division on Developmental Disabilities, and the Research and Training Center on Community-Referenced Nonaversive Behavior Management (RTC).

Jack has profound mental retardation due to ingesting lead based paint, and a seizure disorder that has been controlled with medication. He is nonverbal and has deficits in general adaptive behavior in the areas of self help, socialization, and community integration. He displays behaviors such as rocking on his feet, ritualistic patterns of behavior that last for long periods of time, aggression toward others (i.e., pushing, kicking, biting, spitting), wiping his spit on walls, and property destruction (i.e., throwing, ripping, and breaking objects).

Assessments of the function served by Jack's excess behaviors determined that the behaviors occurred at higher frequencies during on-task, high demand situations. It was hypothesized that the function of these behaviors was to escape or avoid tasks. In addition, the assessments confirmed observations by staff that Jack required a larger personal space than typically needed.

An intervention strategy was developed by the interdisciplinary team members from his residential and day programs, with technical assistance provided by the Project trainer. Baseline data from the day program indicated that he displayed some form of excess behavior in nearly all work tasks. Although during the task of can crushing aggression was generally displayed, it was of lower intensity than during other tasks. Consequently, a program was develped to gradually increase the amount of cans Jack would crush without exhibiting aggression toward others. The program that was implemented introduced a verbal cue (i.e., "just one more can"), which served as a "safety signal" to inform Jack that the can crushing task was almost over and that he could take a break after one more can. Gradually, the number of cans crushed prior to the safety signal was increased.

The signal program has proven very successful at Jack's work program in the last 10 months. During can crushing, he has displayed only five aggressions toward others that required staff intervention. His productivity has increased from five to forty-five cans and the time required to crush cans has decreased. In addition, he now allows staff to enter his personal space while he is working and he less frequently engages in self-stimulatory behaviors. He is also spending less time away from the task during his break, which indicates that work is becoming a more positive event.

An additional safety signal program may soon be incorporated into a second task at Jack's work, and may also be implemented into an activity at his home. As it becomes more apparent that the signal is successfully assisting in the establishment of a quantitative standard for work participation, staff will consider implementing an augmentative communication system to teach Jack to request a break once he has met a quantity or quality standard for participation. It should be quite possible to teach him that once the safety signal has been delivered, he is free to touch a picture symbol to request access to break time. This program would allow Jack to exert significant control over his environment once he has reached a criterion of participation signaled by the delivery of the safety signal.

Jack's success is largely attributable to the success with which direct care staff have worked closely and regularly with a highly skilled technical assistance provider. The result has been a very positive environment for both Jack and the staff who serve him. Equally important, however, is the fact that when direct care staff encounter other persons with socially motivated challenging behavior, they are apt to require less rigorous technical assistance to implement a proactive intervention strategy.

Gerry Nord is Administrative Consultant in Minnesota's Department of Human Services.

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Breaking the Cycle of Challenging Behaviors: Early Treatment Key to Success

By David Wacker, Wendy Berg, and John Northrup

A number of problems confront service providers who work with individuals who display challenging behavior. With adolescents and young adults, a major problem is frequently the length of time that the challenging behavior has persisted. In our outpatient service for self-injury and aggression, the average length of time for the occurrence of self-injury is 10 years. Over the three years that we have provided outpatient services it has become increasingly clear that if we are to be successful in treating challenging behavior with positive procedures, treatment needs to be initiated as soon as possible after the challenging behavior first occurs. If we wait until the behavior has become more severe, then we are faced with more restrictive treatment options, including physical and chemical restraint, inpatient treatment programs, time-consuming local programs, and/or use of mild punishment programs.

> ...to be successful in treating challenging behavior with positive procedures, treatment needs to be initiated as soon as possible after the challenging behavior first occurs.

Long histories of challenging behavior can seriously confound attempts at treatment for several reasons. First, the individual has often received numerous attempts at treatment, which, for a variety of reasons, have been unsuccessful. Each treatment failure can make subsequent attempts at intervention more difficult because of histories in which the emission of behaviors such as self injury have been intermittently reinforced. If, as we believe, the challenging behavior usually serves a specific function for the individual (to gain positive reinforcement or to escape nonpreferred situations or tasks), then every time treatment fails the individual has continued to receive the desired consequences on an intermittent basis. Intermittent reinforcement makes behavior much more resistant to treatment because the individual is "unsure" when reinforcement will again occur. In other words, the individual persists in the behavior in spite of treatment in order to "wait us out".

A second concern with long histories is that the behavior often becomes more complex over time. That is, rather than serving only one function for the person it can come to serve several functions. For example, self-injury might function to allow the individual to both escape nonpreferred situations and to gain preferred items. The more functions that a behavior serves, the more difficult it is to treat. Relatedly, it is common for challenging behavior to initially be associated with specific features of the environment. For example, self-injury may occur only during specific activities, such as grooming tasks. Over time, self-injury frequently becomes associated with more and more activities, again making it much more difficult to treat.

Finally, unsuccessful treatment frequently increases the intensity or frequency of the behavior. It is relatively common to note in case histories that the challenging behavior was occurring less frequently or with less intensity prior to treatment. When treatment is initiated, the individual sometimes responds by increasing the challenging behavior. Service providers, who are often unsure of their treatments, may react to this situation by terminating the treatment. Unfortunately, the behavior seldom returns to its original levels but instead persists at the higher frequencies and intensities.

For these reasons, in 1989, we initiated a program to assess and treat the challenging behavior of young children (ages 3 to 8) within local school settings. This objective is being accomplished by establishing proactive treatment teams, interdisciplinary teams of school staff who are experts in providing positive-based interventions to young children displaying challenging behavior. The project is beginning with four school districts, who have agreed to establish proactive interdisciplinary treatment teams and to work with us during the next two years. "Seed" money, provided by the Iowa Bureau of Special Education, has made it possible to hold two inservices per year and to provide technical assistance (client specific assistance directed at parents and school staff in natural settings) about once a week. Otherwise, all services are provided by local educational staff.

The etiology, or the reason, for self-injury and other challenging behaviors is usually unknown. Rather than asking parents, teachers, and service providers to make claims that indicate the cause of challenging behaviors, the technical assistance team has found it more useful to determine what is currently maintaining the behavior; i.e., what current function does the behavior serve? By identifying the current function of behavior, we may be able to eliminate its occurrence by removing any reinforcement that the individual receives for engaging in the behavior.

Teachers and teams in local school districts are being trained to use functional analysis procedures to assess young children who engage in challenging behavior, and to then implement intervention programs based directly on

assessment. Brief 10-15 minute assessments, in which the interventionist constructs situations that evoke excess behaviors (analogue tasks), are conducted to determine if the behavior is maintained by positive reinforcement (receiving attention, preferred items, etc.), negative reinforcement (escaping or avoiding nonpreferred activities such as demanding tasks or physical contact), or automatic reinforcement (the sensory consequences associated with the behavior). These analogue conditions are repeated until an identifiable behavior pattern emerges. Thus, assessment is conducted to formulate hypotheses about what maintains behavior. Based on our hypotheses, we can then develop intervention programs to be initiated directly in the classroom.

There is no one treatment for challenging behavior. Numerous positive treatments are available, and the key for success is to choose a treatment that: (a) matches the function of behavior, (b) is acceptable to the teacher over relatively long periods of time, and (c) is not too disruptive to the classroom routine. Following assessment, the teacher and treatment teams select an intervention based on the above criteria. Every intervention has two components. First, an alternative behavior is selected to replace the challenging behavior. For example, if the results of assessment indicate that the behavior occurs to escape demanding or nonpreferred classroom tasks, then the student might be trained to sign "break". Whenever the student signs "break", he or she receives a brief break (10-15 seconds) from the task. Alternatively, breaks might be built into the task at frequent intervals and be provided for active or partial participation in the activity (e.g., "Thanks for helping me. We can now take a break."). Second, it is of equal importance that the challenging behavior never results in the desired consequences. For example, if the student displays self-injury, a break is never provided. Instead, the response is ignored or some other consequence (graduated guidance) is provided to continue the student's participation in the task. It is critical that consequences for both appropriate and challenging behavior are consistently delivered.

We are hopeful that the proactive treatment teams established in the school districts will eliminate most challenging behaviors before they become severe. This will require a concerted effort by school personnel, and almost certainly will mean frequent changes in the treatment over time. The two major advantages of initiating treatment in local schools with young children are: (a) treatment is conducted within a natural setting, increasing the probabilities that effective treatment will have durable effects over time, and (b) the results of treatment may prevent more severe forms of challenging behavior from emerging if effective treatment is provided from the moment challenging behavior occurs and is continued in a consistent manner over a long period of time.

Contributed by David Wacker, Associate Professor in Pediatrics; Wendy Berg, Senior Research Scientist; and John Northup, Psychology Intern, University of Iowa.

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Psychotropic Drugs and Developmental Disabilities: From Form to Function

By Timothy D. Hackenberg and Travis Thompson

Modern pharmacological treatments for behavioral and emotional problems came of age in the 1950's with the discovery of medications that had remarkable effects on socially unacceptable behavior. While much of the early excitement regarding psychotropic drugs centered around discovering a cure for mental illness, psychotropic drugs soon found their way into use with people with developmental disabilities. Although few of these individuals were diagnosed with mental illness, the drugs were prescribed to treat violent behavior directed at themselves and others. The results in some individuals were very promising. People with severe mental retardation, for whom socially unacceptable behavior kept them in restraints for most of their waking hours, were now able to function more effectively without harming themselves or others. In addition, pharmacological management of problem behavior undoubtedly had a calming effect on the institutional culture. While not everyone benefitted from such drugs, the sometimes remarkable success stories were enough to result in their widespread administration, even before firm empirical evidence was available.

When psychotropic drugs were subjected to rigorous testing, the results were, and still are, equivocal. Psychotropic drugs help some individuals with developmental disabilities, but are not beneficial to others. What has become clear over the years is that chronic drug treatment can produce an array of side effects that are often debilitating in their own right. While the clinical benefits may outweigh the potential side effects in people who respond to drug treatment, such effects are more difficult to overlook in people who fail to show a positive therapeutic response. Because some of these side effects are irreversible, there is strong pressure to discover ways of distinguishing the individuals likely to benefit from drug treatment from those who are not.

A major obstacle in distinguishing likely drug responders from non-responders is that conventional psychiatric classifications are often not applicable to individuals with severe developmental disabilities. There is no reason to believe that people with mental retardation are any less susceptible to mental health problems than the rest of us. However, most people with developmental disabilities do not have mental illness, nor do their behavior problems or other characteristics satisfy the requirements of DSM-III psychiatric diagnostic schemes. A potential solution is to diagnose individuals on the basis of one or more obvious responses (sometimes called "target" behaviors), and then assign a diagnosis after the fact. This approach, too, has some major drawbacks. A target behavior, such as smashing a chair against a wall, may occur for several reasons. It may occur, a) as a way of terminating an unpleasant situation by an individual with limited communication skills or b) as a way of gaining attention from staff members whose demands leave them with little time for teaching new skills. Thus, a response that appears similar in form may vary widely in its function. It would be surprising if a single drug class produced comparable effects on such a diverse pattern of behavior. A promising alternative is to make treatment decisions on the basis of the function, rather than the form, of the behavior. This approach seeks to discover the circumstances that give rise to, and the functions served by, behaviors.

There is a long tradition of basic research in behavioral pharmacology consistent with this approach. Many of the findings show that the effects of a drug on a given behavior depend on the way that it alters the function of that behavior. An antianxiety drug reduces the behavior of avoiding situations that a person anticipates will be unpleasant. However, the same drug may have much less effect on behaviors that produce positively reinforcing events. A neuroleptic drug reduces behavior that avoids unpleasant situations while leaving intact the motor ability to escape from those same situations if the person chooses. Drug effects sometimes depend on the schedule on which consequences are obtained. The effects of many drugs, including those as seemingly diverse as depressants and stimulants, depend on whether consequences are obtained primarily through effort or primarily through the passage of time. In other words, seemingly minor differences in environmental circumstances can dramatically alter drug effects. Understanding those effects on behavior requires a better understanding of the circumstances under which the behavior occurs under nondrug conditions.

The typical reason for prescribing a medication (the way the behavior looks) may be different from the reasons that the behavior occurs (the functions it serves). For example, an individual who is anxious may respond to events in the world as if they were frightening signals of impending doom from which to escape. Antianxiety medications, by lowering the threshold for such avoidance, may be effective only in individuals for whom problem behavior is avoidance-motivated. Similarly, neuroleptic medication, the most commonly prescribed drug for treating behavior problems, may only be clinically useful in individuals for whom disturbed behavior serves an avoidance function. There is already a fair amount of evidence linking the selective depression of avoidance behavior by a particular neuroleptic drug with the clinical efficacy of that drug. This means that when neuroleptic drugs are administered under conditions other than

avoidance, significant clinical benefits may not occur.

Success has already occurred in identifying the multiple functions of severe behavior problems in people with developmental disabilities. This work has shown that maladaptive behavior sometimes occurs as a way of producing positive consequences, such as attention from others or access to preferred objects or activities. Other times, it occurs as a way of terminating unpleasant or demanding situations, or as a way of regulating sensory input in otherwise impoverished environments. Assessment procedures may provide insights into the effect a specific drug may have by providing information on the functions the target behavior normally serves. At the same time, assessment procedures help to make sense of the large between-subject variability in responsiveness to drug treatment in people with developmental disabilities.

Combining this functional approach to assessment with pharmacological treatment of behavior disorders provides a promising framework for understanding drug effects on behavior, from which informed clinical decisions can be made. Especially challenging are cases in which a problem behavior may serve neurochemical as well as behavioral functions, as is possibly the case with some self-injurious behaviors, one of the most serious and sometimes life-threatening behavior problems in people with developmental disabilities.

The discovery 15 years ago of a bodily substance with opiate-like properties captured the attention of scientists and non-scientists alike. Within months of their initial discovery, endorphins ("the morphine within") were implicated in everything from pain relief and pleasure centers to mental illness and "runner's high". Although substantiating many of these initial claims has proven more elusive than first imagined, significant advances in the biochemical domain have been made. Although clinical applications have lagged behind, recent years have seen the emergence of a promising new approach to treating behavior problems in persons with developmental disabilities that is based in part on these endogenous opiate-like substances. In addition to relieving pain, these naturally occurring endorphins are powerful reinforcing stimuli with the potential for addiction. This means that individuals may not only expend considerable effort to produce these chemicals, they may also suffer withdrawal-type symptoms when the chemicals are withdrawn. These behavior patterns are not unlike those observed in self-injurious behavior in people with developmental disabilities. Initial self-injury may be accidental, occurring perhaps out of frustration or through stereotypic behavior that becomes progressively more intense. Early stages may also be accompanied by environmental support, through attention given by parents or staff. Whatever the initiating conditions, the release of endorphins can set the stage for an addictive cycle of self-injury. Because discontinuing this pattern induces a state of withdrawal, further self-injury continues as a way of warding off this withdrawal distress. At that point, the individual who self-injures becomes physically dependent on the endogenous chemicals, and self-injury is viewed as a chronic pattern of opiate self-administration.

If this hypothesis is correct, we should be able to treat self-injury with drugs that block the effects of the opiates within the body. These opiate blockers, or antagonists, have been used for many years to treat addiction to heroin and other opiate drugs. Unlike other drugs used to control disturbed behavior, opiate antagonists are associated with minor and infrequent side effects, dramatically reducing the risks of such treatment. Our preliminary work on this topic, along with several other published reports, is promising. In a majority of cases, opiate antagonists have reduced self-injury with few or no side effects. In addition to reducing self-injury, this treatment has also produced a range of incidental positive benefits, enabling people afflicted with persistent self-injury to lead healthier, more productive lives in less restrictive settings.

While these clinical gains are certainly encouraging, approximately one-third of all individuals with self-injury fail to respond to opiate antagonists, which suggests the involvement of other factors. It appears that self-injury has multiple causes that are influenced by a combination of environmental and neurochemical factors. Self-injury — even when we can demonstrate clear neurochemical involvement — occurs under environmental circumstances. A big part of gaining control over self-injury will require gaining control over those circumstances. This is where the functional approach to assessment and treatment comes into play. We believe that a complete understanding of self-injury — or any problem behavior, for that matter — will come only through drug treatments that are conducted within the context of a functional analysis of the environmental circumstances surrounding the behavior.

We have adopted this analytic approach in several lines of research that are still in their early stages. In one study, for example, we are following the endorphin hypothesis, but combining it with positive behavioral interventions based on the functional origins of each individual's self-injury. This approach is based on an assumption that maladaptive behavior, like any other behavior pattern, serves certain functions. Once those functions have been identified through assessment procedures, intervention programs whose goals are to replace self-injury with more adaptive behavior that serves the same purpose can be implemented. In some cases, merely increasing the frequency of positive interchanges in a variety of everyday circumstances — eating, dressing, vocational and recreational activities — may be sufficient to reduce self-injury. In others, it is necessary to teach situation-specific responses, such as communication skills, to replace less adaptive forms of behavior. An individual with minimal verbal skills may use self-injury as a means of obtaining attention or assistance

Drugs, continued on page 18

Summary of the National Working Conference on Positive Approaches to the Management of Challenging Behavior

In June, 1990, the National Institute on Disability and Rehabilitation Research (NIDRR) took steps to establish its funding priorities for future grant competition in the area of positive approaches to the management of challenging behavior. To gain a better perspective on research and training needs, NIDRR funded a national working conference, held in Washington, D.C. and organized by the University of Minnesota's Research and Training Center on Community Living. After extensive information gathering and discussion, conference participants established guiding principles for best practices in positive approaches to the management of challenging behavior, and identified priority areas requiring attention in future research and training.

Participants unanimously agreed that the principles below represent generally accepted best practices with respect to assessment/intervention, training, policies, and the development of adaptive behaviors:

- Assessment and intervention must occur in a range of relevant, integrated settings.
- Assessment and intervention procedures must address the long term maintenance of socially acceptable behaviors in integrated settings.
- Measures used to evaluate the effectiveness of interventions must address:
  - the range of functional skills developed to replace challenging behaviors,
  - the generality of these new skills, and
  - natural contingencies that will maintain these behaviors.
- Assessment and intervention procedures must promote family involvement and accommodate a diversity of family lifestyles.
- Assessment, intervention, and training procedures must be community friendly. That is, they must minimize the need for people in the community to alter their behavior to accommodate the person with the challenging behavior.
- Approaches to the study of challenging behavior must address longitudinal service delivery across preschool through post-school years.
- Research and practice must avoid using intervention strategies that isolate, stigmatize, or cause physical discomfort.

With these guiding principles in mind, conferees identified the following as critical areas requiring careful attention in future research and training priorities aimed at addressing the needs of individuals who engage in challenging behavior and their families.

Areas of Need in Intervention Research

Research exploring intervention procedures that address challenging behaviors needs to:

- **Bridge functional analysis of challenging behaviors and intervention.** Functional implies that challenging behavior serves a purpose for individuals with severe developmental disabilities. Functional analysis of challenging behavior consists of the use of staff/guardian interviews, A-B-C analyses, scatter plots, and environmental manipulations in order to identify what serves to provoke and/or reinforce an individual's repertoire of challenging behaviors. Best practice would indicate that the most logical intervention procedures should be developed using information derived from a functional analysis.
- **Address health and medical issues**. There is a need to improve our ability to create interventions that address the effect that prior setting events such as medical conditions, headaches, menstrual discomfort, seizures, ear infections, and heat sensitivity may have on attempts to replace challenging behavior with more socially acceptable alternatives.
- **Address social interactions and communication.** Interventions need to be developed that focus on social skills and functional communication as alternatives to engaging in challenging behavior. Although significant progress has been made in matching challenging behavior to specific social functions (i.e., requesting attention, escapes/avoiding task demands), there is a continuing need to develop more practical applications to achieve these matches.
- **Address environmental modifications.** More time needs to be spent developing interventions that incorporate environmental modifications into overall intervention plans. If it has been determined that a person engages in challenging behavior whenever s/he is working around a specific peer or when grouped with a large number of peers in a small area, it would make more sense and be less intrusive to change elements (e.g., have person work around a different peer, in a smaller group, or in a larger work area) within the person's environment rather than intervene directly with the person.
- **Address proactive and antecedent intervention strategies.** Intervention procedures should focus on ongoing proactive interventions that teach alternative adaptive skills during times when the individual is not engaging in challenging behavior rather than relying exclusively on

reactive procedures which are implemented only after the individual has engaged in challenging behavior.

Areas of Need in Methodology/Measurement Research

Research exploring intervention procedures that address challenging behaviors needs to:

- **Develop methodologies and intervention procedures that address infrequent (low rate) behavior problems.** Socially unacceptable behavior that is emitted infrequently is particularly challenging to the interventionist. Low frequency emissions often involve "payback" in which the learner is provoked but delays his/her reaction (socially unacceptable behaviors) until the actions will have a greater impact. Few instances require longer time frames of analysis or analogue assessment strategies (i.e., structured environmental manipulations) in order to determine social functions served by behaviors.
- **Develop procedures for measuring changes in severity/ magnitude of challenging behaviors.** Most measurement systems are not sensitive to severity/magnitude changes across time. As a result, the effectiveness of some interventions is not recognized. In many cases, effective interventions are discontinued because changes in challenging behaviors are not measured.

Areas of Need in Prevention Research

Traditionally, assessment and intervention efforts with respect to challenging behavior have focused on those occasions in which individuals already exhibit significant emissions of socially unacceptable behavior. Few efforts have been made to explore interventions that address potentially challenging behaviors before they reach levels that serve to create a crisis. Research exploring prevention procedures that address challenging behaviors needs to:

- **Investigate early indicators of behaviors that can lead to more challenging behaviors**. For example, it should be possible to identify low level challenging behaviors that can be replaced with proactive alternatives before they become part of a well established communicative repertoire.
- **Develop and evaluate appropriate interventions that decrease these early indicator behaviors.** Best practice indicates that interventions should be developed that can be implemented in a wide variety of contexts. Since very young children spend a majority of their time at home with their family, intervention strategies that address the family represent a particularly important area. It is critical that a menu of intervention strategies reflect the variety of family situations and parenting styles that the interventionist is apt to encounter.

Areas of Need in Training Research

Research exploring training needs to:

- **Develop and implement a continuum of training.** Training should address a continuum from preservice (i.e., preparing personnel in a human services area to receive a degree), to ongoing technical assistance (i.e, an individual with specific expertise monitors program implementation on an ongoing basis, provides ongoing training, troubleshoots programmatic hurdles, and provides suggestions and recommendations).
- **Training should be provided to a variety of people.** Training should be provided to families and agencies that are aimed at supporting home programs and appropriate ongoing technical assistance models. In addition, training should involve a variety of disciplines within the human services field (e.g., special education, psychology, behavior analysis, communication disorders, vocational habilitation/ rehabilitation, recreation, occupational and physical therapy, medical, etc.) in the training continuum to better integrate services for persons with developmental disabilities who also have challenging behavior.

Areas of Need in Systems Research

Research exploring systems involvement needs to:

- **Establish and evaluate technical assistance models.** Technical assistance models should be established to translate research into best practices in the form of program and intervention development, training, ongoing monitoring, and other forms of information dissemination and should be evaluated on their effectiveness in doing so.
- **Promote research and programs supporting families/ providers in the use of positive approaches to the management of challenging behavior.** The focus of these efforts should be on procedures that are accepted by families and providers, reasonable for use in typical settings, and do not involve physical pain, tissue damage, or humiliation to the person exhibiting the behavior.

The priority areas identified by conferees were viewed as so critical that they chose not to rank them in importance. Instead, it was the consensus that progress is needed within each. Conferees agreed that outcomes of research should lead to meaningful changes in the lives of persons who engage in challenging behaviors. Recommendations focused on better understanding the individual engaging in challenging behaviors; developing proactive, ongoing strategies to address challenging or potentially challenging behaviors; providing adequate training to personnel/family members; and establishing adequate support systems to individuals, families, and service providing agencies.

Contributed by Cheryl Light, Research Assistant, Institute on Community Integration, University of Minnesota.

Ken, continued from page 1

self-injury. He hit his head on the walls and floors, poked his fingers in his nose until it bled, pulled out two of his teeth, pulled his genitals, and during frequent tantrums he threw his body against walls and other hard objects. His caretakers tried a variety of interventions including physical and chemical restraint. However, none of their efforts reduced the severity of Ken's behavior problems for long and some of his self-injury became life threatening.

Eventually, Ken lived at two state-operated Regional Treatment Centers. While there, he pulled five additional teeth from his mouth, lacerated his lip, bit through his inner cheek and as a result spent much of his time in an acute hospital setting. Professionals working with him were still unable to develop a program that reduced his behavior problems for an extended period. Much of Ken's daily life was spent in mechanical restraints or injuring himself. The following comment was taken from the medical record at one of the centers: "Much of Ken's day is spent in SIBs (self-injurious behaviors). His behavior is so severe he has not been able to even attempt to accomplish his current objectives.... His SIB has virtually eliminated his liking of any activity, edible reinforcer or physical reward. The SIB has superseded almost all of his work during the school day and thus his chances of earning rewards."

The residential providers and the county human services staff had been firmly committed to keeping Ken in the community. However, due to his severe self-injury, many were beginning to have doubts about whether this would ever be a feasible plan.

Ken moved into a specialized community foster home in 1984 when he was 16 years old. His family and the human services staff believed he would have a better opportunity to learn to manage his behavior and gain skills if he were living in an integrated community environment. Ken did well in this home. He gained new skills such as washing dishes, setting the table, assisting in cleaning the house, shoveling the snow, and participating in community leisure/recreation activities. His medications were reduced as his self-injurious behavior and other behavior problems lessened. However, due to personal problems of the foster parents, Ken had to move back to a Regional Treatment Center after living in this community home for only five months. During the next four months at a Regional Treatment Center, Ken waited for a new community foster home to be developed.

In 1985, when Ken was 17 years old, he moved to the next community foster home where he lived for the following three years. His behavior problems escalated and there were times when he caused more damage than in any of the past years combined. His foster parents, a couple working their way through college, were committed to Ken and persisted in working with him throughout those difficult three years. During the last year and a half in this home, he spent much of his time at home because no public school or day/vocational program was able to provide services to him due to his self-injurious behavior. He spent a significant amount of time in mechanical restraints to prevent self-injury, with his days consisting of lying on his bed playing with wooden blocks or dominoes. He received several psychotropic medications to reduce his behavior problems.

Ken rarely went into the community because his self-injury seemed to increase in community settings. A relaxation program was begun to teach him to relax when he became agitated and before the self-injury began to occur. Notes in the foster parents' records during this period of time reflect the seriousness of his condition: "Ken is in NO restraints from 2:30 - 2:45 p.m. and from 30 minutes before dinner until just after his bath, which is just before bedtime." In the summer of 1986, Ken began to cause property damage in the course of his self-injury by banging his head into windows, walls, and mirrors. He continuously wore a restraint on his left hand to prevent further injury from hand biting. He was reported to be free of mechanical restraints for only about four hours per day. The residential providers and the county human services staff had been firmly committed to keeping Ken in the community. However, due to his severe self-injury, many were beginning to have doubts about whether this would ever be a feasible plan.

In 1986, Ken's team contacted the Institute for Disabilities Studies, University of Minnesota, and requested assistance in developing a more appropriate intervention program for him. Dr. Travis Thompson of the Institute coordinated Ken's medical evaluations to identify what might be causing or maintaining some of his self-injurious behaviors. His medications were revised several times under the direction of Dr. George Realmuto, a psychiatrist at the University. Then, through the Institute's Technical Assistance Program, an interdisciplinary team conducted assessments in the areas of communication and recreation, in addition to a functional assessment of his behavior and precipitating antecedents and consequences. Dr. Joe Reichle of the University's Communications Disorders department developed functional communication objectives for Ken as the result of a systematic assessment of the communicative motivations for his challenging behavior. Dr. Stuart Schleien, of the University's School of Physical Education and Recreation, developed a recreational/leisure program for Ken. Subsequently, Ken's team developed detailed treatment intervention plans based on assessment findings.

A vocational provider was selected and a specific plan to gradually introduce Ken to a work program was implemented. During the first few weeks, a vocational job coach worked with him for short periods at his home to establish a positive relationship in the environment in which he was

most comfortable. Gradually, Ken visited his job site for short periods. Then, he was taught to engage in competitive employment as a janitor for a few hours a day. In addition to this janitorial work training, Ken also received communication and recreation/leisure skill intervention.

In January of 1988, Ken's foster parents moved to another community and a service provider assumed responsibility for residential services for Ken, with the Technical Assistance Program staff taking responsibility for program design and staff training. Ken remained in the same home in which he had been living for the previous three years and new staff began working with him. Because he had a history of increasing self-injury when changes were made in his life, key staff were selected to spend time with him in his vocational program and establish a friendship with him several months before the change in residential providers occurred. When new staff were employed for the residential program, each of them spent time in his day program so he could get to know them and establish a relationship before they began working with him at home. An integrated treatment/intervention program was developed for Ken in his residential setting that replicated the successful functional training that had become a critical component of his work program. All staff working with Ken in his home received intensive training from the Technical Assistance team and they spent time observing Ken and his job coach so they could learn how to continue the same kind of interactions and program interventions that had been initiated in his work program.

The commitment to overcoming obstacles in providing community-based treatment has been rewarded by the emergence of an individual named Ken from a life of physical deterioration and self-injury to a life of achievements, enjoyment and community participation.

A critical component in the development of his vocational program was the carefully planned and integrated behavioral, communication, and leisure programs. The behavior program was intertwined through all the activities and events in his day. The job coach who worked with Ken was a highly skilled behavior analyst and had frequent contact with each of the Technical Assistance team as the program was conducted. Data-based program adjustments were made as soon as possible when a problem was identified. Communication training occurred throughout all of the different activities in Ken's day. A graphic system of small line drawings was developed to teach Ken to follow a schedule independently. A communication system was also integrated into a leisure activity in which Ken went to fast food restaurants once per week, where he was taught to independently order his meal. Ken also learned skills to engage in age-appropriate functional activities to provide him with pleasurable alternatives. At the day program he was taught to play pinball and "Simon" and to bowl. Once he acquired these skills, staff began to take Ken to community centers where he played pinball independently.

It has been almost three years since the intensive treatment/intervention program for Ken began. His progress in daily living skills, communication skills, reducing behavior problems, and actively participating in community activities in a functionally appropriate manner is impressive. He transitioned into a full work day within a few months of the start of the program and only three incidents of self-injury occurred during that period. It has now been over two years since Ken has exhibited any form of self-injurious behavior, aggression, or property destruction. Several psychotropic medications (Lithium, Doxipin, Chloral Hydrate) were discontinued in the spring of 1989, as were the mechanical and physical restraint procedures.

Ken regularly participates in a range of community activities. He works out at the YMCA each week and does a daily physical fitness program at home. He works five-six hours per day at a local motel providing janitorial services. He has acquired the skills needed to use his message board at home, in his work program, and at fast food restaurants. This program has now been expanded to purchasing items in stores using colored photo-duplicated symbols of product labels. He has learned to call people on the telephone and frequently requests to call people whom he likes. Just before Christmas of 1989, Ken asked one of the staff people in his home if he could get a Christmas tree, stating that he wanted to cut it down. The next day the staff person and Ken went into a wooded area where Ken selected the tree and helped cut it. He later communicated to visitors his pride and sense of accomplishment in his tree.

When we began working with Ken three years ago, he was the only person in a residential program with two-to-one staffing 24 hours per day. Currently two other individuals with developmental disabilities share Ken's home. In his vocational program a similar situation has occurred. Ken now works with several other persons and no longer needs two-to-one staffing. The staff people who work with Ken in his home and his vocational program are wonderful and dedicated individuals. Most of them have been working with him for over two years and the entire program seems like a network of caring friends who spend a lot of time together, rather than a group of paid staff members.

Ken's success has encouraged those who have worked with him these past few years. The commitment to overcoming obstacles in providing community-based treatment has been rewarded by the emergence of an individual named Ken from a life of physical deterioration and self-injury to a life of achievements, enjoyment, and community participation.

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Mat, continued from page 3

engaged in self-isolative behaviors, such as covering his head with the blanket and lying on the couch for hours. He frequently stripped while in community settings, on those occasions when staff were able to coax him to go out.

After this had continued for months, the assistance of a behavior analyst was sought. A functional anályses revealed that Mat's stripping and subsequent refusal to wear clothing was the result of his attempt to exert control over his environment, primarily to escape or avoid undesired events. For this reason, the behavior analyst suggested not focusing directly on the issue of wearing clothing, but rather addressing the development of a communication system for Mat.

When his program was implemented, Mat was reported to have known over 200 signs, however, he was rarely observed to use the signs spontaneously. When he did sign, others in his environment were unable to interpret his signing. Consequently, the behavior analyst and a consultant in augmentative and alternative communication suggested that a graphic mode communication system (i.e., a communication system using pictures or symbols) be implemented to supplement his existing system.

The program that was developed for Mat had two main components. The first was to enhance his communication and choice-making skills, and the second was to provide opportunities for him to participate in activities that were motivating and required that he wear clothes (i.e., trips out into the community). To address communication and choice-making skills, a series of Polaroid photographs were taken of people Mat knew and worked with, activities Mat liked or was required to engage in (e.g., watch MTV, go to McDonald's, shave, take a shower, etc.), and a variety of objects (e.g., lotion, pop, cookies, etc.). Then, a minimum of four times each hour, Mat was presented with a choice. Mat would then pick one of the pictures, and staff would help him complete whatever activity he had chosen. Over the next several months, additional photographs were added. By November of 1989, he had over 130 photographs in his communication system. The photographs were mounted on hooks in a hallway of the house where he lived, ensuring that he had easy access to them. Over time, staff reported that Mat began spontaneously using some of the pictures to request items. He would, for example, bring staff the photo for Diet Pepsi to request a Diet Pepsi. So the communication system served to augment not only Mat's comprehension abilities (his ability to understand the choices being presented), but it also served to augment his ability to make his wants and needs known to persons in his environment.

While Mat's communication system was being developed, staff were also trying to indirectly address his refusal to wear clothes by capitalizing on the fact that he seemed to genuinely like to go out into the community. Staff would periodically encourage Mat to dress. On those occasions when he would dress, he was then able to participate in a community activity that was reinforcing for him. The length of these outings was gradually increased.

As time went on, staff tried to increase the amount of time Mat was dressed at home by requiring him to wait for short periods of time once he was dressed to go out into the community. For example, if he indicated that he wanted to go to the store, he was encouraged to get dressed before he could go. Once he was dressed, staff would say, "Mat, I have to do these dishes quickly before we can go. Why don't you watch MTV, and we'll be ready to go in just a few minutes." Staff employed similar "stalling" techniques once Mat returned home from a community outing. For example, after returning home from the grocery store, he was encouraged to help carry in the bags of groceries (generally one at a time) and to help put the groceries away. Staff continued to implement these stalling and delaying techniques over an eleven month period, gradually increasing the amount of time he would remain clothed.

Mat now wears clothes an average of 17 hours a day and during the past year he has not attempted to strip while in the community. This is not to say that his challenging behaviors have disappeared. He still experiences periods when many of these behaviors escalate. But now, these periods generally last only days, not months. And staff now feel more confident in their ability to implement strategies that have been successful in the past. Perhaps most importantly, Mat's challenging behavior no longer stands in the way of his full participation in the local community.

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Drugs, continued from page 13

with problems they are otherwise unable to solve (e.g., opening a cabinet door or obtaining a desired food item from the refrigerator). For this individual, the intervention would include teaching other ways of achieving those same outcomes (e.g., engaging another person in social interaction or seeking their assistance by signing their name). Thus, we are trying to eliminate possible environmental reasons for self-injury by teaching new skills that produce similar results. By removing both the environmental support (through positive behavioral programs) and the neurochemical support (through treatment with opiate blockers) of self-injury, we hope to arrive at an integrated approach to the problem that draws on its multiple causes. We believe that only by identifying the functions of behavior—environmental as well as neurochemical — can we hope to achieve lasting reductions of severe behavior problems of people with developmental disabilities.

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Training, continued from page 9

fundamental themes underlying positive approaches; (b) preventive issues in providing support; (c) assessment and functional analysis; (d) a competing behaviors model for addressing problem behaviors; (e) developing comprehensive support plans, including attention to ecological variables and setting events, antecedent manipulations, response and instructional interventions, consequence interventions, and crisis and emergency procedures; (f) issues in the acceptability of support procedures; (g) outcomes for evaluating support plan success; and (h) technology utilization issues related to the implementation of positive approaches.

As mentioned earlier, the initial inservice training is spread over a number of meetings in order to provide participants opportunities to engage in hands-on activities involving the direct application of inservice information and materials. Learning to use positive support procedures and to train others to use them requires more than listening, discussing, and reading. It also requires using and doing. Consequently, applications of procedures through direct hands-on experiences is an essential part of the State Training Team Inservice. Within the context of their training, people on the training teams apply what they are learning in real situations. They evaluate real environments, conduct assessments and functional analyses on real people with real problem behaviors, and help to design support plans with components that are likely to be implemented.

Such experiences are possible because of another important feature of the State Training Team Inservice - the training occurs in the context of community programs that support people with disabilities who display problem behaviors. This is accomplished by identifying a "demonstration community" during the initial stage of setting up the inservice in a state. A demonstration community consists of the various agencies and people that provide support to a particular individual or group of people with disabilities and problem behaviors. For example, a demonstration community could be made up of staff from a residential program and a school district, plus interested family members, a consulting nurse, and a case manager. The staff and individuals from the demonstration community would then attend training sessions and participate in training activities along with the members of the state training team.

A key to the success of the State Training Team Inservice is the collaboration between the training team and the demonstration community participants. At the beginning of the inservice, specific individuals with disabilities from the demonstration community are identified as case study targets. These people then serve as the focal point for the activities of small groups (usually 3-5 people) of the training team and demonstration community participants. Throughout the inservice, the small groups apply training content and materials as they tackle the task of developing a comprehensive support plan for their targeted individual. Opportunities for the small groups to discuss their activities and the particular issues and problems they face are provided during each inservice session block. This provides opportunities for all of the inservice participants to face real problems and to work out real problem-solving strategies. The end results of this process are that training team and demonstration community participants receive hands-on experience within their training, and the people receiving support reap the benefits of intensive attention from a small group focused specifically on their needs.

To date, State Training Team Inservices have been implemented in 10 states (California, Oregon, Minnesota, Colorado, Michigan, Connecticut, Indiana, Tennessee, Washington, and Florida). Six additional states have been identified to receive the training over the next two years (Arizona, West Virginia, New York, Maine, Virginia, and Delaware). Except for California and Oregon, which served as initial test sites for the inservice, the states that have received the State Training Team Inservice were selected on the basis of applications received from the states themselves. The RTC defined selection criteria and requested proposals from state agencies or other organizations. In their application, a state is asked to describe a plan for how the training team would be supported and used within the state in order to insure expansion and maintenance of the programs. In selecting states to receive training, the RTC staff wanted to see a plan that documented the potential for good spread of effect for the training.

An exciting aspect of the results for this inservice training project is that several of the state training teams are now actively involved in training efforts of their own. In California, Oregon, Minnesota, Connecticut, and Colorado additional rounds of training have occurred or are in progress. Other states are currently planning for future training efforts by their teams. Training teams are serving as a resource within their states and new people are being reached as a result of the initial State Training Team Inservices. Minnesota's current, in progress, plan for the use of its team provides an excellent example of the impact that the "training-of-trainers" approach can have. Additional demonstration communities have received training and a series of workshops, geographically distributed around the state, have been scheduled.

The overall impact of the State Training Team Inservices remains to be seen. Positive effects in a number of the states receiving training are encouraging. The true test of the effectiveness of these inservices will be whether increasing numbers of people with disabilities and problem behaviors are supported in community programs and sites. As the expertise of local program staff increases and as behavioral support resources available to local programs improve, we should see increased community integration for all people with disabilities.

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In this issue . . .

- **Success stories of four individual with challenging behaviors living in the community.**
- **Preventing challenging behavior through a community integration program.**
- **School-based intervention for 3-8 year olds with challenging behavior.**
- **Clinical treatment combining functional assessment with psychotropic medication.**
- **Quality of life in the community for people with challenging behavior.**
- **Inservice training strategy to facilitate community integration.**
- **Summary of national working conference on positive approaches to managing challenging behavior.**
- **And more . . .**

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